AMENDMENT TO THE CLAIMS:

Please cancel claim 23 without prejudice and please amend claim 13 and 14 as follows:

1.-12. (Canceled)

13. (Currently Amended) A motor for driving a cylindrical conveyor roller that rotates around a stationary shaft, said conveyor roller having a first end and a second end, the motor comprising:

a cylindrical rotor disposed inside of and mounted to rotate with said cylindrical roller around said stationary shaft;

wherein said rotor is formed of a plurality of longitudinal segments of permanent magnetic material, wherein said segments alternate orientation of north-south magnetic polarity in a radial direction to produce flux in flux path loops connecting pairs of the longitudinal segments;

a plurality of stator coils mounted on said shaft for receiving current from an external power supply that commutates current in said stator coils;

wherein said motor is a brushless d.c. motor;

further comprising a cylindrical metal rotor housing forming a part of the rotor for receiving the segments of permanent magnetic material and for supporting the shaft and the stator coils in a motor assembly;

wherein said motor assembly, including said cylindrical metal rotor housing, is disposed inside of and secured to said roller to rotate with the roller;

wherein said motor is supported by two spaced apart bearings which space the rotor from the stator to form an air gap; and

wherein a first one of said bearings is proximate the first end of the conveyor roller and wherein a second one of said bearings is spaced a distance away from said first one of said bearings to provide the air gap for spacing the rotor from the stator; and

<u>wherein said stationary shaft extends only between said first one of the bearings and said second one of the bearings,</u>

which is a distance less than a distance between said first end and said second end of said conveyor roller.

14. (Currently Amended) A motor for driving a cylindrical conveyor roller that rotates around a stationary shaft, said conveyor roller having a first end and a second end, the motor comprising:

a cylindrical rotor disposed inside of and mounted to rotate with said cylindrical roller around said stationary shaft;

wherein said rotor is formed of a plurality of longitudinal segments of permanent magnetic material, wherein said segments alternate orientation of north-south magnetic polarity in a radial direction to produce flux in flux path loops connecting pairs of the longitudinal segments;

a plurality of stator coils mounted on said shaft for receiving current from an external power supply that commutates current in said stator coils;

wherein said motor is a brushless d.c. motor;

further comprising a cylindrical metal rotor housing forming a part of the rotor for receiving the segments of permanent magnetic material and for supporting the shaft and the stator coils in a motor assembly;

wherein said motor assembly, including said cylindrical metal rotor housing, is disposed inside of and secured to said roller to rotate with the roller;

wherein said motor is supported by two spaced apart bearings which space the rotor from the stator to form an air gap; and

wherein a first one of said bearings is proximate the first end of the conveyor roller and wherein a second one of said bearings is spaced a distance away from said first one of said bearings to provide the air gap for spacing the rotor from the stator, and

wherein said conveyor roller extends beyond said second one of said bearings and to a greater length than the brushless d.c. motor, and further comprising a third bearing

disposed beyond said second one of said bearings and proximate the second end of the conveyor roller for rotatably supporting the conveyor roller; and

wherein said stationary shaft extends only between said first one of the bearings and said second one of the bearings, which is a distance less than a distance between said first end and said second end of said conveyor roller.

15. (Original) The motor of claim 13 or 14, wherein said rotor is connected to directly drive said roller without the use of a reduction gear assembly.

16. (Currently Amended) The motor of claim ~~claims~~ 13 or 14, wherein the rotor housing is fastened to the conveyor roller by an interference fit.

17. (Original) The motor of claim 13 or 14, wherein said plurality of poles includes at least six poles formed in said cylindrical member as longitudinal segments with segments of alternating north-south magnetic polarity with said roller providing a magnetic path between segments.

18. (Original) The motor of claim 13 or 14, wherein the stator coils are formed of a number of turns and a gauge of wire selected to produce a ratio of stator voltage to speed of at least 10 RMS volts per 1000 RPM for an applied stator voltage of 24 RMS volts per phase.

19. (Original) The motor of claim 13 or 14, wherein the stator has a plurality of teeth, and wherein each stator coil encircles a single stator tooth.

20. (Original) The motor of claim 13 or 14, further comprising a position sensor for detecting a rotational position of the rotor.

21. (Original) The motor of claim 20, wherein the position sensor comprises three Hall-effect devices mounted on a circuit board disposed within the motor housing.

22. (Original) The motor of claim 20, in combination with an electronic controller, said electronic controller sensing rotational position of the rotor from the position sensor and controlling commutation of current supplied to the stator coils.

23. (Canceled)

Remarks

In the Office Action of April 28, 2003, there was an indication of allowable subject matter in claim 23, and such indication is gratefully acknowledged.

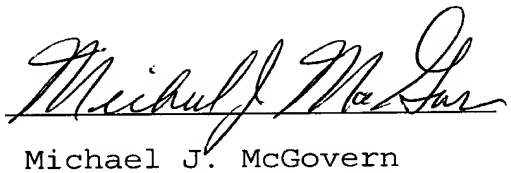
As a result, claim 23 has been canceled without prejudice and the limitations of claim 23 have been inserted into claims 13 and 14.

Claims 15-22 depend directly or indirectly from claims 13 and 14 and are allowable for at least the same reasons as claims 13 and 14. It is now seen that claims 13-22 are allowable.

Conclusion

In view of the Amendment and Remarks, reconsideration of the application is respectfully requested. After the Amendment, claims 13-22 are now pending, and a Notice of Allowance for these claims is earnestly solicited.

Respectfully submitted,

By: 

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